

To ROE or not to ROE?
Small Unmanned Aerial Vehicles and Self-Defense

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When pulling into foreign ports, US Navy ships have been routinely approached by small unmanned aerial vehicles (UAVs) of unknown origin. These UAVs, despite their small size, could be weaponized and present a security risk. From a legal perspective, there are two possible responses to this threat: (1) promulgate new rules of engagement; or (2) self-defense. Rather than making small UAVs hostile under the rules of engagement—for which there is no basis in international law—the US should promulgate a new policy to make proximity to a US sovereign immune vessel a *per se* indication of hostile intent for purposes of self-defense.

I. Introduction

In November of 2018, the USS Ronald Reagan (CVN-76) pulled in to Hong Kong for a port visit. During its transit through Chinese territorial waters, the aircraft carrier was followed by at least one small, unmanned aerial vehicle (UAV) that took video and posted the footage online.¹ From the footage, it appears the drone came within a few hundred feet of the aircraft carrier's flight deck. This was not an isolated incident but is indicative of a growing trend over the past several years. Setting aside the intelligence concerns presented by this UAV—which are legion—its presence in such close proximity to the aircraft carrier presents a significant physical security risk. While it does not appear that the UAV in this particular case was armed, it would be easy to load explosives—not to mention a biological or chemical agent—onto a small UAV and use it as a weapon.² In response to this threat, there is a push from some commanders to issue Rules of Engagement (ROE) that expressly allow them to target small UAVs if they come within a certain distance of the vessel as a force protection measure. From a practical legal perspective, there are two options that commanders could use to respond to this threat: (1) a supplemental measure under the rules of engagement; or (2) the inherent right of self-defense. Despite this push for ROE allowing the targeting of small UAVs, there is no international legal basis upon which to support making these UAVs legitimate

¹ “USS Ronald Reagan CVN-76 Hong Kong Visit 2018,” YouTube, last accessed May 5, 2019, <https://www.youtube.com/watch?v=XLAnRYeQmb0>

² “Venezuela President Maduro survives drone assassination attempt,” *BBC*, August 5, 2018, <https://www.bbc.com/news/world-latin-america-45073385>.

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targets; instead, the United States Government should promulgate new policy to use proximity an indicator of hostile intent for self-defense against small UAVs.

II. Rules of Engagement

1) Background on Rules of Engagement

Rules of engagement (ROE) are the limitations—either standing or specific to a particular mission—given to combatants that identify when they may initiate and/or continue combat.³ ROE are a mix of domestic law, international law, policy and operational considerations that—while remaining consistent with international law—can restrict operational responses that would otherwise be legal under international law.⁴ Put another way, they are the mechanism through which countries simultaneously ensure compliance with both international law and the political goals of their national command authorities. ROE, however, are a statement of national policy, not a legal authority. Each rule in the ROE must have an underlying legal basis from which that rule derives authority.

The Department of Defense, since 1994, has issued standing ROE in a classified document, which covers the broadly-applicable ROE for all US forces both in peacetime

³ DEPARTMENT OF DEFENSE JOINT STAFF, JOINT PUBLICATION 1-04, LEGAL SUPPORT TO MILITARY OPERATIONS (2016) (defines rules of engagement as: “[d]irectives issued by competent military authority that delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered”).

⁴ OFFICE OF GENERAL COUNSEL, DEPARTMENT OF DEFENSE, DEPARTMENT OF DEFENSE LAW OF WAR MANUAL (2016) para. 1.6.5 (hereinafter DOD LAW OF WAR MANUAL); E. L. Gaston “Reconceptualizing Individual or Unit Self-Defense as a Combatant Privilege” *Harvard National Security Journal* 8, (2017): 288.

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and in combat zones.⁵ The ROE identify where a commander is authorized to use force in accomplishment of a mission, i.e. “mission accomplishment” ROE, which is specifically distinguished from that of self-defense.⁶ If there is no applicable rule for a particular situation, the commander can request up the chain of command for a “supplemental measure” approving, and delegating to that commander, the authority necessary to complete the mission.⁷ In this case, commanders have indicated that they would like to be issued supplemental mission accomplishment ROE to target all small UAVs within proximity of their vessel. In order for that supplemental measure to be valid, however, it must be based on legal authority that allows such targeting.

2) Applicable Legal Basis for Supplemental Rules of Engagement

There are three bodies of law upon which this supplemental ROE could be based; however, none of which provide a sufficient legal basis: (1) law of armed conflict (LOAC) applied to an international armed conflict (IAC); (2) LOAC applied to a non-international armed conflict (NIAC); or (3) domestic law. While LOAC applies in both an IAC and a NIAC, different provisions and treaties apply to each. In order for either of these regimes to exist, however, the United States would have to be in an armed conflict. This creates a catch-22 for targeting small UAVs: Mission accomplishment ROE can only declare small UAVs to be legal targets if those UAVs belong to an opposing belligerent in an IAC or NIAC. Put another way, to apply ROE allowing for attacking a

⁵ While portions of the document, CJCSI 3121.01B, are classified, unclassified sections of the document have been released. All specific citations to the rules of engagement in this document will refer to sections of CJCSI 3121.01B that are published in the United States Army JAG Corps Operational Law Handbook.

⁶ International and Operational Law Department. *Operational Law Handbook*. 17th ed. (Charlottesville: The Judge Advocate General’s Center and School, 2018), 79.

⁷ International and Operational Law Department. *Operational Law Handbook*. Chap. 5.

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small UAV without applying concepts of self-defense requires that the small UAV already be a legitimate target, which can only apply in a state of conflict. When pulling into foreign ports, it is unlikely that the United States Navy would pull into a port where the threat of belligerent UAVs existed.

Assuming, *arguendo*, that a state of conflict exists and LOAC applies to small UAVs, there is still a practical problem in applying the principles of distinction and necessity. Although LOAC is applied differently in an IAC and a NIAC, in either case the legal principles of distinction and necessity would apply.⁸ The combination of these principles requires that any targeted civilian object have a military use—a so called dual-use object—to be a valid legal target. Because of the size of small UAVs and lack of clearly identifiable markings on them, it is difficult to identify if a UAV is a military or a civilian object. In the absence of a clear determination of whether or not the small UAV is being used as a weapon or merely a hobbyist's tool trying to get good pictures, the commander can only consider the UAV through the lens of identifying the threat it poses. In other words, the commander is reduced to merely assessing the level of threat posed by the small UAV. This analysis is conceptually indistinguishable from that for self-defense, as will be shown below.

The third possible legal basis for supplemental ROE to respond to small UAVs is under domestic law. In other words, LOAC does not apply at all—because neither an IAC nor a NIAC exists—making the response purely a police action controlled only by domestic law. In this case, who owns the UAV is irrelevant; instead, the commander

⁸ DoD LAW OF WAR MANUAL, para 5.5 and 17.7.

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would review the issue purely as one of force protection. This construct, however, has two major issues. First, jurisdiction over law enforcement actions is affected by where the US sovereign immune vessel is located. As the range of a small UAV is limited, the most likely scenario is that the United States sovereign immune vessel is in the territorial waters of another state. It would be a jurisdictional problem for the United States to apply domestic law in the territorial waters of another state without an existing international agreement permitting it. Instead, the United States would be reliant on the territorial state to enforce its own laws to protect the US sovereign immune vessel. Second, assuming *arguendo*, that an international agreement granting the United States jurisdiction did exist, the commander's right to protect his vessel is located in the standing rules of engagement, which apply to "routine Military Department functions...includ[ing] Antiterrorism/Force Protection duties...."⁹ As there is no other basis in the ROE for protection, the commander would have to invoke self-defense. In other words, self-defense is the only legal basis to target small UAVs without an active conflict during which small UAVs can be declared hostile.

3) Efficacy of Rules of Engagement as Applied to Small UAVs

As shown above, each possible legal basis upon which to found a supplemental ROE, rather than providing the commander with a simplified ability to target small UAVs, either requires the commander to assess the threat or resorts to the self-defense provision of the ROE. Furthermore, because of the practical nature of the threat—small fast moving objects for which both armament and provenance are exceedingly difficult to

⁹ International and Operational Law Department. *Operational Law Handbook*. Chap. 5.

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identify—positive identification of the UAV as a combatant is almost impossible. This means there is no legal basis to issue supplemental ROE that declares all small UAVs hostile. The only legal theory upon which small UAVs can be targeted is based on the threat they pose in any given situation.

III. Self-defense

1) Difference between Individual and State Concepts of Self Defense

Before delving into how individual and unit self-defense apply to small UAVs, it is necessary to differentiate between types of self-defense. The first concept of self-defense, enshrined in Article 51 of the UN Charter, is the right of states to respond to an “armed attack” in self-defense.¹⁰ This type of self-defense—national self-defense—is a *jus ad bellum* right of states to enter into a state of conflict in response to the aggression of another state. National self-defense is distinct from the concept of *individual* or unit self-defense. Unlike national self-defense, which focuses on the sovereign’s legal authority to respond, individual self-defense allows an individual to respond immediately as a measure of protection. This concept has been extended to include the protection of others in the unit; that is, it is not necessary to believe that you personally are the target, merely that someone in your specific unit is a target, to allow response in self-defense.

2) Legal Basis for Individual and Unit Self-Defense

While the United States’ Standing Rules of Engagement state, “unit commanders always retain the inherent right and obligation to exercise unit self-defense in response to a hostile act or demonstrated hostile intent,” there is a debate as to where this right legally

¹⁰ U.N. Charter art. 51.

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originates.¹¹ As ROE are not a source of law, but a statement of policy, the fact that the right to self-defense is guaranteed in ROE does not serve as an adequate legal basis for its existence. Furthermore, neither the United States nor NATO list self-defense as an affirmative rule of engagement; instead, both the US and NATO versions of ROE state that nothing in their rules abrogates the existing right to self-defense.¹² Surprisingly, there is a paucity of legal literature regarding where this individual right of self-defense originates. What little literature exists identifies three possible legal sources for the right to self-defense: (1) domestic criminal law; (2) combatants exercising their sovereign state's right to self-defense; or (3) as a *sui generis* customary international law.¹³ Each of these arguments has its merits; however, there no currently accepted position in international law as to which is the source of individual self-defense.¹⁴ In fact, there is no accepted understanding among international lawyers as to where the inherent right of individual self-defense originated. For purposes of this argument, the underlying source

¹¹ E. L. Gaston, "Reconceptualizing Individual or Unit Self-Defense as a Combatant Privilege," *Harvard National Security Journal* 283, no. 8 (2017): 295.

¹² Hans F.R. Boddens Hosang, "Force Protection, Unit Self-Defence, And Personal Self-Defence" in *The Handbook Of The International Law Of Military Operations*, ed. Terry D. Gill and Dieter Fleck, 2nd ed. (Oxford: Oxford University Press, 2015) 476.

¹³ Gaston, *Harvard National Security Journal* 283(8):295 (identifying the various categories in legal literature); Charles Trumbull IV, "The Basis of Unit Self-Defense and Implications for the Use of Force," *Duke Journal of Comparative and International Law* 121, no. 23 (Fall 2012): 147-48 (arguing for self-defense as *sui generis* customary international law); Maj. David Bolgiano et. al. "Defining the Right of Self-Defense: Working Toward the Use of a Deadly Force Appendix to the Standing Rules of Engagement for the Department of Defense," *University of Baltimore Law Review* 157, no. 31 (Spring:2002): 163-69 (arguing for both a criminal law and state conception of self-defense).

¹⁴ Trumbull's argument that self-defense is a *sui generis* customary international law is most persuasive because it alleviates the confusion caused by the ICJ differentiating between "armed attack and "frontier incidents" in *US v. Nicaragua*. If individual self-defense is a *sui generis* customary international law, that distinction need only apply to national self-defense. Charles Trumbull IV, "The Basis of Unit Self-Defense and Implications for the Use of Force," *Duke Journal of Comparative and International Law* 121, no. 23 (Fall 2012): 140-145.

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of the individual right of self-defense is not as important as the ethical reasoning for its existence.

Despite the lack of agreement, the underlying reason for why individual self-defense is an undisputed right is clear: each individual has the inherent right to protect herself against another who puts her life at risk. This right, however, is constrained. An unlimited right to self-defense would undermine the ethical basis for the rule; namely, resort to lethal force can only be justified by a lethal threat. In order to ensure that there is a legitimate threat to life, the inherent right to self-defense is bounded both in time and space by the concepts of hostile act and hostile intent.

3) Application of Individual Self-Defense: Hostile Act and Hostile Intent

Under international law, the United States has identified two requirements, either of which allows for invoking self-defense: (1) hostile act; or (2) hostile intent. Each is a term of art to describe what can trigger individual self-defense, which, as noted above, is an inherent right.¹⁵ A hostile act is defined by the US Department of Defense (DoD) Standing Rules of Engagement as: “An attack or other use of force against the United States, U.S. forces, or other designated persons or property.”¹⁶ A hostile act is an affirmative attack or use of force, to include force used to preclude or impede a mission.¹⁷ A hostile attack, because it requires an affirmative action on the part of the attacker, has very little ambiguity in its application; either the attack occurred or it did not.

¹⁵ E. L. Gaston, “Reconceptualizing Individual or Unit Self-Defense,” 306

¹⁶ International and Operational Law Department. *Operational Law Handbook*. 79 (Citing CJCSI 3121.01B, Standing Rules of Engagement (SROE)/Standing Rules for the Use of Force (SRUF) unclassified portion).

¹⁷ International and Operational Law Department, *Operational Law Handbook*, 79 (Citing CJCSI 3121.01B, Standing Rules of Engagement (SROE)/Standing Rules for the Use of Force (SRUF) unclassified portion).

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Hostile intent, on the other hand, is defined by the DoD Standing Rules of Engagement as: “The threat of imminent use of force against the United States, U.S. forces, or other designated persons or property.”¹⁸ Despite the apparent simplicity in this definition, hostile intent can be very difficult to apply due to the ambiguity of the word ‘imminent’ in the definition. The DoD Standing Rules of Engagement define an imminent threat as: “Based on an assessment of all facts and circumstances known to U.S. forces at the time and may be made at any level.” It does not provide specific information on what facts and circumstances might be relevant to the commander to make that determination. The DoD doesn’t provide any more positive definition but does provide further negative clarifying information: “Imminent does not necessarily mean immediate or instantaneous.” This sentence gives commanders significant leeway to interpret both the level of threat—it’s physical proximity—and its imminence—how soon that threat will manifest.

4) Differences With Applying Current Concepts of Self-Defense to Small UAVs

There are two major differences with applying the concept of self-defense to small UAVs as compared to other weapons systems: (1) the inability to discern intent; and (2) the change in the ethical calculus. First, the unique characteristics of small UAVs limit the commander’s ability to discern intent. Given the size and speed of a small UAV, the imminence requirement can be met once it is within several hundred yards of the naval vessel. Mere proximity, however, is not enough; there must be an imminent *use of force*. This is difficult to discern on a small UAV for three reasons. First, a small

¹⁸ International and Operational Law Department, *Operational Law Handbook*, 79 (Citing CJCSI 3121.01B, Standing Rules of Engagement (SROE)/Standing Rules for the Use of Force (SRUF) unclassified portion).

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UAV can have a civilian non-weaponized purpose; therefore, its presence is not inherently hostile. Second, given the UAV's size, any weaponization on the UAV would be incredibly difficult to detect. Unlike a manned aircraft or other larger UAVs, there would not be any detectable ordnance on the wings to provide the commander with relevant information upon which to base her decision. Finally, the small size of the UAVs makes them difficult to detect electronically, forcing the commander to rely on visual identification. Although it is technologically possible to develop radar that has the specificity to detect small UAVs, the complexity of seeing an object with such a small cross section will require a "plethora of assets" to identify one small UAV.¹⁹ As of this writing, those assets are not on US sovereign immune vessels. When combined with the difficulty of ascertaining whether or not the UAV is weaponized and the fact that it can have legitimate civilian purposes, the inability to detect a small UAV until within visual range presents a unique threat. By the time the commander can identify that the small UAV is actually a threat, it is too late to respond.

The second reason that self-defense applies differently to small UAVs is the change in the ethical calculus caused by them being unmanned. Shooting down a small UAV does not threaten physical harm to any individual. The limitations of hostile act and hostile intent were placed on the inherent right of individual self-defense as a recognition that it is only ethically acceptable to kill another person when there is an imminent likelihood that your own life could be at risk. This ethical balancing undergirds the entire structure of individual self-defense. It does not, however, apply to

¹⁹ Daniela Pistoia, "Detecting and Neutralizing Mini-Drones" *Journal of the Joint Air Power Competence Center* 25 (Winter 2017/2018) 81-86.

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UAVs, where there is no risk to human life. This allows for an expansion of the application of self-defense without undermining its ethical limitations.

5) Adjusting the Hostile Intent Paradigm for Small UAVs

When taken together, the unique practical problem of discerning when there is an “imminent use of force” by a small UAV and the ethical consideration that the only lives at risk are those of the individual invoking self-defense militate in favor of a new hostile intent paradigm for individual self-defense from small UAVs. To be clear, this is not a new concept of hostile intent; instead, it is a new understanding of how hostile intent should be applied to this specific situation. Because small UAVs are so difficult to discern as a threat, the United States should promulgate a general policy that if any small UAV gets within a certain distance (e.g. 1000 yards) of a US sovereign immune naval vessel, the commander of that vessel will consider the presence of that UAV as a factor in assessing hostile intent. The intent is not to create a “kill zone” around US sovereign immune naval vessels. Similar to the creation of a maritime warning zone,²⁰ this would create a zone, entry into which would provide the commander another data point to make a hostile intent determination. For example, a small UAV that entered the declared zone around the sovereign immune vessel but that was moving parallel and not approaching the vessel would not demonstrate hostile intent. If, on the other hand, a small UAV was approaching a vessel on an intercept path, entrance into the declared zone combined with the approach vector could give the commander the authority to capture, neutralize or destroy the small UAV.

²⁰ DEPARTMENT OF THE NAVY, NWP 1-14M, “COMMANDER’S HANDBOOK ON THE LAW OF NAVAL OPERATIONS” para 4.4.7.

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To be clear, this proposal does not apply across the board to either all aircraft or all UAVs; small UAVs present a unique case. Manned aircraft have markings and signatures that provide a commander significantly more intelligence regarding the intent of that aircraft. Furthermore, the commander is able to communicate with the pilot of the aircraft to ascertain intent. Similarly, large UAVs also have markings and signatures upon which the commander can rely for discerning hostile intent. While large UAVs present the same ethical assessment as small UAVs for purposes of self-defense, they do not present the same practical problems for determination of hostile intent as small UAVs. Large UAVs can relatively easily be identified as being either weaponized or civilian in nature, removing the ambiguity of threat from the commander's calculations. The need for a declared small UAV security zone around sovereign immune vessels is only necessary because of the unique practical and ethical considerations of that threat.

IV. Conclusion

With the rise in availability and fall in cost of small UAVs, their proliferation is only likely to continue. While the vast majority of small UAV operators are hobbyists, it only takes one weaponized UAV to cause significant damage. It is, therefore, understandable that commanders have requested to be given new rules of engagement that allow them to neutralize small UAVs. As has been shown, however, there is no legal basis upon which to target small UAVs unless in a declared conflict. There is simply no way under international law to declare all small UAVs hostile and, therefore, targetable. Instead, it would be significantly more effective to use the concept of self-defense. By publicly declaring a small UAV safety zone around all US sovereign immune ships, the commander has, as a result of any small UAV entering that safety zone, indicia of hostile

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intent. When taken together with any other indications of hostile intent, this would allow commanders the ability to neutralize the threat.

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